

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/2009 has been entered. Claims 1-5, 9-11 and 16 are cancelled. Claims 6-8, 12-15 and 17 are now pending.

### EXAMINER'S AMENDMENT

2. Authorization for this examiner's amendment was given in a telephone interview with Kirk Buhler on 11/12/09.

The application has been amended as follows:

Claim 8, line 3: "combining a silicon-containing substance and ~~an alkaline~~ an alkaline substance that is"

Claim 13: "The manufacturing method for ~~the a~~ flocculant of claim ~~478~~, wherein an aggregating means is added for adding gypsum to said acid silicon calcium colloidal solution to cause undissolved suspended matter to aggregate."

Claim 14: "The manufacturing method for ~~the a~~ flocculant of claim ~~478~~, wherein a pH adjustment means is added to add iron or aluminum to said acid silicon calcium colloidal solution to adjust the pH value of said acid silicon calcium colloidal."

Claim 17, line 8: "that includes HCl and at least one or more of acetic acid, ammonium acetate, and".

*Allowable Subject Matter*

3. Claims 6-8, 12-15 and 17 are allowed.
4. The following is an examiner's statement of reasons for allowance:
5. The present claims are allowed over the closest references: Poncelet et al. (US 5888711).

Poncelet et al. disclose a silicon-containing flocculant and its method to manufacture the flocculant by reacting soluble silica or a soluble silicate compound and NaOH solution with an aluminum compound to form a colloidal dispersion of the inorganic material. When the product is not isolated from its colloidal solution, it may be used as a flocculant (column 1 lines 15-26). A white gel was collected which was solubilized with 5 ml of a 50:50 mixture of hydrochloric acid 1M and acetic acid 2M (See Example 1).

However, Poncelet et al. do not teach or fairly suggest the claimed liquid flocculant and method of manufacturing, wherein the liquid flocculant is obtained by mixing a silicon-containing substance with an alkaline substance that is calcium carbonate or lime; heating the resulting mixture at a temperature below the melting point of the silicon-containing substance, whereby the silicon-containing substance is rendered acid soluble; and dissolving the so-heat-treated silicon-containing substance in an acid solvent that includes HCl and at least one or more of acetic acid, ammonium acetate, and ammonium chloride to obtain the liquid flocculant.

There is no prior art of record, alone or in combination teach or fairly suggest the claimed acid silicon calcium colloidal flocculant and manufacturing method.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Cheng Wang whose telephone number is (571)270-5459. The examiner can normally be reached on Monday to Friday w/alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/  
Primary Examiner, Art Unit 1796

/Chun-Cheng Wang/  
Examiner, Art Unit 1796

/CCW/